

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of claims:

1. (currently amended) A method of collecting ~~embryonic-like~~ placental stem cells from a an isolated mammalian placenta ~~which has been treated to remove residual cord blood~~, said method comprising:

perfusing a said placenta ~~which has been drained of cord blood~~ with an anticoagulant a perfusion solution in an amount and for a time sufficient to flush out residual cells and embryonic-like collect a detectable amount of placental stem cells from said ~~drained~~ placenta, said placenta having been drained of cord blood prior to said perfusing; and

collecting said ~~residual cells and embryonic-like stem~~ placental stem cells and perfusion solution from ~~the drained~~ said placenta.

2-24 (canceled)

25. (new) A method of collecting CD34⁺ stem cells from an isolated mammalian placenta, said method comprising:

perfusing said placenta with a perfusion solution in an amount and for a time sufficient to collect a detectable amount of CD34⁺ stem cells from said placenta, wherein said placenta has been drained of cord blood prior to said perfusing, and wherein said CD34⁺ stem cells are not obtained from cord blood; and

collecting said CD34⁺ stem cells and perfusion solution from said placenta.

26. (new) The method of claims 1 or 25 further comprising separating said placental stem cells from said residual cells and said perfusion solution.

27. (new) The method of claim 26, wherein said separating is accomplished by centrifugation.

28. (new) The method of claims 1 or 25 wherein the placenta is perfused by passing the perfusion solution into one or both of the umbilical artery and umbilical vein of said placenta.

29. (new) The method of claims 1 or 25 wherein said perfusing is performed for at least four hours.

30. (new) The method of claims 1 or 25 wherein said perfusing is performed for at least twelve hours.

31. (new) The method of claims 1 or 25 wherein said perfusing is performed for at least 24 hours.

32. (new) The method of claims 1 or 25, wherein said perfusing is performed using a first volume of between about 30 ml and about 150 ml of said perfusion solution.

33. (new) The method of claim 32, further comprising continuing said perfusing using a second volume of about 30 ml to about 150 ml of said perfusion solution, said second volume being collected separately from said first volume.

34. (new) The method of claims 1 or 25, in which said perfusing is performed for a plurality of times.

35. (new) The method of claim 34, wherein, for each of said times, said perfusing is performed using a volume of about 30 ml to about 150 ml of said perfusion solution.

36. (new) The method of claim 32, further comprising separating said placental stem cells from said perfusion solution.

37. (new) The method of claim 33, further comprising separating said placental stem cells from said perfusion solution.

38. (new) The method of claim 32 wherein said placental stem cells are collected over a period of up to 48 hours.

39. (new) The method of claim 33 wherein said placental stem cells are collected over a period of up to 48 hours.

40. (new) The method of claims 1 or 25 wherein said perfusion solution contains an anticoagulant.

41. (new) The method of claim 32 wherein said perfusion solution contains an anticoagulant.

42. (new) The method of claim 34 wherein said perfusion solution contains an anticoagulant.

43. (new) The method of claims 1 or 25, wherein said perfusion solution comprises heparin, ethylene diamine tetra acetic acid (EDTA) or creatine phosphate dextrose (CPDA).

44. (new) The method of claims 1 or 25, wherein said perfusion solution comprises a growth factor or a cytokine.

45. (new) The method of claim 44, wherein said growth factor or cytokine is selected from the group consisting of a colony stimulating factor, interferon, erythropoietin, stem cell factor, thrombopoietin, an interleukin, granulocyte colony-stimulating factor, and a combination of any thereof.

46. (new) The method of claims 1 or 25, wherein said isolated mammalian placenta is a post-partum placenta remaining after a successful birth.